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How to Design and Create an Effective Survey/Questionnaire; A Step by Step Guide

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Abstract

Businesses and researchers across all industries conduct surveys to uncover answers to specific, important questions. In fact, questionnaires and surveys can be an effective tools for data collection required research and evaluation The challenge is how to design and create an effective survey/questionnaire that accomplishes its purpose. This study is going to provide the brief description of the survey development process, its advantages and disadvantages.

Key Words

Research Instrument, Questionnaire Development, and Survey Design.

I. Survey Development

Some researches use questionnaire method to collect the required data which provides a way of gathering structured and unstructured data from respondents in a standardized way, either as a part of a structured interview or through self-completion. Often, data collected are numerical (a measurement) or can be represented numerically (ranked in order of preference for example) and can thus be analyzed using statistical techniques. Self-completion questionnaire are also a cost effective way of collecting data from a large number of widely dispersed participants, particularly if postage costs can be avoided by, for example asking individuals, such as teachers or employers to supervise completion of questionnaires by groups that is applied by this study. According to

Wilson, (2010), the advantages of using a questionnaire are as follows:

- They allow to obtain accurate information
- They provide a cost effective and reliable means of gathering feedback that can be qualitative as well as quantitative
- A survey questionnaire can provide accurate and relevant data through thoughtful design, testing and detailed administration (McClelland, 1994)

A well-produced questionnaire is capable of generating effective and accurate data. In order to facilitate the collection of accurate information, the researcher needs to take into account two key issues. First, an appropriate set of questions needs to be included within the main body of the questionnaire. Second, the questionnaire must be aimed at the right target audience. A poorly selected sample can lead not only to a set of biased results, but also to a high non-response rate. Ultimately, this will have implications for research analysis.

Questionnaires often have a combination of question types and collect data on facts, attitudes and beliefs. Questions can be direct or indirect. Attention must be given to the wording of the questions themselves in order to maximize reliability. Question should (Somekh and Lewin, 2011):

- Be clear and unambiguous and not use technical language or language that is inappropriate for the respondents.
- Not lead the respondents to particular answers
- Be simple rather than complex
- Avoid questions that are double-barreled (ask more than one question simultaneously, e.g. do you own a mobile or a landline?- if respondents say yes how do you know whether they own a mobile only, a landline only or both)
- Avoid the use of negative and double negatives
- Ensure that in multiple choice questions and rating scales that all categorizes are mutually exclusive (if a single response is required)
- Avoid questions that may antagonize or irritate respondents or could be perceived to be threatening

Instruction on how to complete the questionnaire should be explicit, clear and polite. Piloting a questionnaire (testing it with a limited number of individuals who are similar to the sample) in crucial and can highlight ambiguities and other potential pitfalls.

Questionnaires can be administered face-to-face, via telephone, via post or online. Ethical issues need to be considered such as anonymity and confidentially depending on the sensitive nature of

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questions being asked (Somekh and Lewin, 2011).

Questionnaires can be returned electronically or completed online, in which case data entry can be automated but may exclude some members of the sample (e.g. those without access to the internet), introducing a bias. Costs can be lower (no postage, printing, or data entry costs) but this will depend on the technical expertise required (costs of creating an online questionnaire). Many online survey services are available to enable rapid generation of Questionnaires and simple analysis. Data can also easily be exported for more complex analysis using statistical analysis software.

However, in questionnaire design there are many issue that need to be considered, in order to a maximize the responds and be confident that it is an instrument that is reliable and valid (Somekh and Lewin, 2011). Dillman (1978) has described how best to maximize the response rate of participants in questionnaire:

- Cooperation is in some sense rewarding for them
- The rewards outweigh the costs to them, in terms of money, time and effort
- They are convinced that they can trust researcher to keep his/her side of the transaction

A questionnaire can also be relatively inexpensive to conduct. For this reason, email, online and postal surveys tend to be favored methods of administering questionnaires (Dillman, 1978).

Although the advantages outweigh the disadvantages, there are some potential problems with questionnaires. First, unlike personal interviews, the way that questionnaires are administered often means that they are impersonal. If a participant is unsure about a particular question, or simply requires clarification on a particular point, the researcher is not on hand to clarify. The consequences may be in accurate data or the respondent fails to answer the question. A second potential problem with questionnaires is that if the respondent misinterprets a question, that response cannot be included in the final analysis.

After survey development, a pilot survey might be carried out to determine the required sample size for the actual survey and improving the questionnaire by means of detecting errors and limitation of the questionnaire prior to the conduct of the actual survey. A pilot study emulates procedures proposed for the main study (Dillman, 2000). The main purpose of the pilot study is to verify whether respondents are able to understand and answer all the questions. After revision and correcting the errors, an actual survey can be conducted to collect the data. Questionnaire research design procedure is shown in Figure 1.

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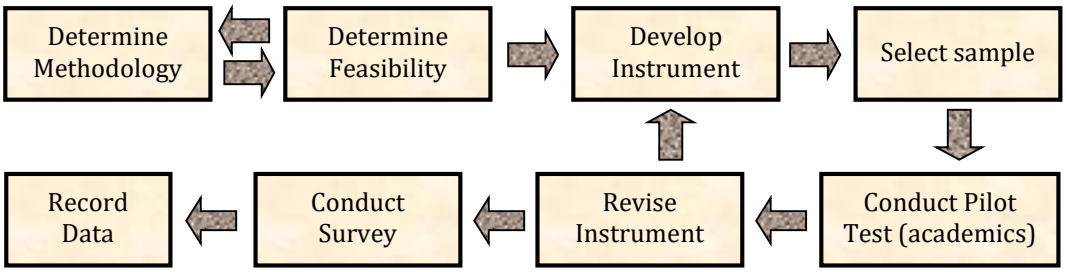

FIGURE 1: QUESTIONNAIRE RESEARCH DESIGN PROCEDURE

On the other hand, according to above explanation, there are some disadvantages on using questionnaire so some strategies can be applied such as considering some rewards for respondents who completely answer the questions and preparing complete explanation for each of the items in case of unclarifying of questions for respondents.

II. CONCLUSION

In this study, the survey development process were described. Also the advantages and disadvantages of survey method for data collection were explained. As mentioned, in order to develop the survey, first, the researcher should decide what s/he is measuring. As with determining the purpose, research needs to decide what is going to be measured, if it is respondents' attitude, knowledge, skills, goals, intentions, behaviors or practices. Furthermore, in order to design an effective questionnaire, the survey items should be direct with simple language, avoid acronyms, include definitions if needed and keep the questions as short as possible (be brief).

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Authors' Biography

Hamed Taherdoost is holder of Bachelor degree in the field of Science of Power Electricity, Master of Computer Science (Information Security), Doctoral of Business Administration; Management Information Systems and second PhD in the field of Computer Science.

With over 16 years of experience in the field of IT and Management, Dr Hamed has established himself as an industry leader in the field of Management and IT. Currently he is Chief Executive Officer of Hamta Business Solutions Sdn Bhd, Director and Chief Technological Officer of an IT Company, Asanware Sdn Bhd, Chief Executive Officer of Ahoora Ltd | Management Consultation Group, and Chief Executive Officer of Simurgh Pvt, an International Trade Company.

Remarkably, a part of his experience in industry background, he also has numerous experiences in academic environment. Dr.Hamed has published more than 100 scientific articles in authentic journals and conferences. Currently, he is a member of European Alliance for Innovation, Informatics Society, Society of Computer Science, American Educational Research Association, British Science Association, Sales Management Association, Institute of Electrical and Electronics Engineers (IEEE), IEEE Young Professionals, IEEE Council on Electronic Design Automation, and Association for Computing Machinery (ACM).

Particularly, he is a Certified Ethical Hacker (CEH), Associate in Project Management (CAPM), Information Systems Auditor (CISA), Information Security Manager (CISM), PMI Risk Management Professional, Project Management Professional (PMP), Computer Hacking Forensic Investigator (CHFI) and Certified Information Systems (CIS).

His research interest areas are Management of Information System, Technology Acceptance Models and Frameworks, Information Security, Information Technology Management, Cryptography, Smart Card Technology, Computer Ethics, Web Service Quality, Web Service Security, Performance Evaluation, Internet Marketing, Project Management and Leadership.

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